Attorney Docket No.: 2001P05879US

## AMENDMENTS

Please amend the claims as follows:

1. (Currently Amended)    A method for quantification of strain imaging comprising:

(a) performing a motion analysis <u>for tissue strain quantification</u> on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs based upon said motion analysis; and

(c) comparing said strain estimates of each of said at least two ROIs to quantify strain for the at least two ROIs.

2. (Previously Presented)    The method of claim 1 wherein said performing comprises:

(a1)    generating a plurality of blocks for each of said at least two ROIs; and

(a2)    utilizing a block matching technique to perform a motion analysis on each of said at least two ROIs.

3. (Previously Presented)    The method of claim 2 wherein each of said plurality of blocks touch a boundary of said at least two ROIs.

4. (Previously Presented)    The method of claim 1 wherein said providing is performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is strain estimate; and where $a_i$ and $b_i$ are the displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering said ROI.

5. (Previously Presented)    A method for quantification of strain imaging comprising:

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(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of at least two ROIs; and (a2) utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said at least two ROIs;

(b) providing a strain estimate for each of said plurality of ROIs based upon said motion analysis; and

(c) comparing said strain estimates of each of said plurality of ROIs to quantify said strain for said at least two ROIs.


6. (Previously Presented)    The method of claim 5 where said strain estimate is performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is strain estimate; and where $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI.


7. (Currently Amended)    A computer readable medium for quantification of strain imaging including program instructions for:

(a) performing a motion analysis for tissue strain quantification on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs based upon said motion analysis; and

(c) comparing strain estimates of each of said at least two ROIs to quantify the strain for said at least two ROIs.


8. (Previously Presented)    The computer readable medium of claim 7 wherein said performing said motion analysis comprises:

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(a1)    generating a plurality of blocks for each of said at least two ROIs; and

(a2)    utilizing a block matching technique to perform a motion analysis on each of said at least two ROIs.

9. (Previously Presented)     The computer readable medium of claim 7 wherein each of said plurality of blocks touch a boundary of said at least two ROIs.

10. (Previously Presented)     The computer readable medium of claim 7 wherein said providing said strain estimate (b) is performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is strain estimate; and where $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI.

11. (Previously Presented)     A computer readable medium for quantification of strain imaging having program instructions for:

(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of said plurality of ROIs;

(a2)    utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said plurality of ROIs;

(b) providing a strain estimate for each of said plurality of ROIs based upon said motion analysis; and

(c) comparing strain estimates of each of said plurality of ROIs to quantify said strain for at least two ROIs.

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12. (Previously Presented)     The computer readable medium of claim 11 wherein strain estimate is performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is strain estimate; and where $a_i$ and $b_i$ the displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line. $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI.

13. (Previously Presented)     A method for quantification of strain imaging comprising:

(a) performing a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs said strain estimate being performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering the ROI.

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14. (Previously Presented)     A method for quantification of strain imaging comprising:

(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of at least two ROIs; and (a2) utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said at least two ROIs;

(b) providing a strain estimate for each of said plurality of ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI; and

(c) comparing strain estimates of each of said plurality of ROIs to quantify the strain for said at least two ROIs.


15.     (Previously Presented) A computer readable medium for quantification of strain imaging including program instructions to perform a method comprising:

(a) performing a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI; and

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(c) comparing strain estimates of each of said at least two ROIs to quantify the strain for at least two ROIs.


16. (Previously Presented) A computer readable medium for quantification of strain imaging having program instructions for:

(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of said plurality of ROIs;

(a2) utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said plurality of ROIs;

(b) providing a strain estimate for each of said plurality of ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i_1}^{i_2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein $a_i$ and $b_i$ are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, $d_i$ is a distance between said two blocks, and $i_1$ and $i_2$ are indices along an A-line on a B-mode image covering that specific ROI; and

(c) comparing strain estimates of each of said plurality of ROIs to quantify strain for at least two ROIs.

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